

Abstract of the Invention

An adaptive entropy coder is coupled with a localized conditioning
5 context to provide efficient compression of images with localized high
frequency variations. In one implementation, an arithmetic coder can be used
as the adaptive entropy coder. The localized conditioning context includes a
basic context region with multiple context pixels that are adjacent the current
pixel, each of the context pixels having an image tone. A state is determined
10 for the basic context region based upon a pattern of unique image tones
among the context pixels therein. An extended context region that includes
the basic context region is used to identify a non-local trend within the context
pixels and a corresponding state. A current pixel may be arithmetically
15 encoded according to a previously encoded pixel having the same tone or as
a not-in-context element. In one implementation, a not-in-context element
may be represented by a tone in a color cache that is arranged as an ordered
list of most recent not-in-context values.